

Amendments to the Claims

Kindly cancel claims 4 and 7-11.

Kindly amend claims 1 and 3.

Kindly add new claims 13 and 14.

1. (Currently amended) ~~★~~ An energy efficient method for recovering substantially all carbon dioxide generated in a combustion process which includes an application of sweep gas in combination with a mixed conducting membrane,
characterised in that
the said method comprises the following steps:
 - a) a sweep gas is used to pick up oxygen on the permeate side of a mixed conducting membrane in a first stage which is capable of separating oxygen from a pre-heated air stream fed to the retentate side of said membrane,
 - b) the sweep gas containing oxygen is applied as oxidant in a combustor in said first stage to which a carbon containing fuel is separately fed and combusted,
 - c) pre-heated combustion products of step b) containing CO₂, H₂O and a low concentration of O₂ is are used as sweep gas ~~in a~~ to pick up oxygen on the permeate side of a second mixed conducting membrane in a second stage downstream the combustor in step b) which is capable of separating oxygen from a pre-heated air stream fed to the retentate side of said second membrane,
 - d) the concentration of oxygen in the sweep gas of step c) is increased in the second membrane in ~~the~~ said second stage (step c) to a sufficiently high level to be used as oxidant in the combustor in ~~the~~ said second stage to which a carbon containing fuel is separately fed and combusted, and
 - e) ~~and~~ the steps c) - d) are repeated in one or more stages.

2. (Previously presented) A method for recovering substantially all carbon dioxide generated in a combustion process according to claim 1,
c h a r a c t e r i s e d i n t h a t
the combuster is a catalytic combuster.
3. (Currently amended) A method for recovering substantially all carbon dioxide generated in a combustion process according to claim 1,
c h a r a c t e r i s e d i n t h a t
the sweep gas used in step a) is superheated steam or a mixture of steam ~~and/or~~ and recycled exhaust gas from the last combuster in the sequence.
4. (Cancel)
5. (Previously presented) A method for recovering substantially all carbon dioxide generated in a combustion process according to claim 1,
c h a r a c t e r i s e d i n t h a t
the air stream is heated by heat exchanging with exhaust gas generated in at least one combuster.
6. (Original) A method for recovering substantially all carbon dioxide generated in a combustion process according to claim 1,
c h a r a c t e r i s e d i n t h a t
the air stream, before being heated, is compressed and divided into several streams and each stream is heated in a heat exchanger located between two membrane stages.
- 7-11. (Cancel)

12. (Previously presented) A method for recovering substantially all carbon dioxide generated in a combustion process according to claim 1, characterised in that the combustor is a non-catalytic combustor.
13. (New) A method according to claim 1, characterised in that the number of stages depends on the amount of sweep gas fed to the mixed conducting membrane in said first stage and on the required pre-heating temperature of air fed to the retentate side of the mixed conducting membrane.
14. (New) A method according to claim 1, characterised in that the concentration of oxygen in the oxygen-enriched sweep gas is below 10%.